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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,470	10/06/2000	David W. Bainbridge	2400/14	4045

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[REDACTED] EXAMINER

VO, HAI

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 06/06/2002

[Signature]

Please find below and/or attached an Office communication concerning this application or proceeding.

FD

Office Action Summary	Application No.	Applicant(s)
	09/684,470	BAINBRIDGE ET AL.
	Examiner Hai Vo	Art Unit 1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-28 and 30-35 is/are rejected.
- 7) Claim(s) 29 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 October 2000 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5 and 6</u> . | 6) <input type="checkbox"/> Other: _____ |

Specification

1. The specification is objected to because the status of US Patent Application Serial No. 09/506,507, page 1, line 2 needs to be updated. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 26, 27 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 26, the phrase "different materials" is unclear and confusing. Which materials does applicant want to convey? Does Applicant mean different polymeric materials?

Regarding claims 27 and 28, the term "like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 6, 7, 9-11, 13, 16-25, and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meteer et al (US 5,888,642).

The recitation that the preamble is "a padding material or construction material or a filter material" has not given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa v. Robie*, 88 USPQ 478 (CCPA 1951).

Meteer discloses a syntactic structural foam product made from a blend of hollow ceramic microspheres, a phenolic powdered resin and a catalyst. Because the foam product is formed from the blending of microspheres and powdered resin in the presence of catalyst solution (column 5, lines 56-58), the powdered resin is likely cured from a liquid state while in initial contact with the microspheres.

Meteer teaches the phenolic resin incorporated into the composition in an amount of 22% by weight (column 10, line 5). Meteer discloses a system of void spaces being about 26% of the total volume (column 6, lines 1-6). Meteer does disclose the microspheres having a diameter of 177 microns (column 10, line 29).

Meteer does not teach the specific ranges for the diameter of the microsphere incorporated into the foam. However, such a variable would have been recognized by one skilled in the art to impart the shear and compression

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strengths of the foam. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the microsphere of Meteer with the diameter instantly claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

In re Aller, 105 USPQ 233. Since Meteer is using the same materials (glass microsphere, and phenolic resin) and the same blending process to produce the foam as Applicant, it is the examiner's position that degree of microsphere coverage by the adhesive is inherently within a recited range and the foam of Meteer would inherently exhibit the same breathability and hardness properties as set forth in the claims. With regard to claims 9, 10, 11 and 13, the microsphere in Meteer is made of hollow ceramic material (column 2, lines 49-50), therefore it is known to be inelastic. With regard to claims 16-18, Meteer discloses the adhesive being made from the phenolic powdered resin and a catalyst (column 5, lines 56-58). Meteer discloses the adhesive being polyurethane (column 4, line 49). With regard to claim 19, Meteer discloses the micropheres being of different sizes (column 2, line 66). With regard to claims 20, 22 and 23, It is the examiner's position that the foam in Meteer is identical to or only slightly different than the claimed padding material prepared by the method of the claim, because both materials having structural similarity (a microsphere coated with an adhesive and a porosity). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the

product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). The Meteer reference strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Meteer. With regard to claim 21, Meteer discloses the micropheres being coated with a coupling agent (column 5, lines 51-53). With regard to claims 24 and 25, Figure 9 of Meteer shows the shape of the bead being spherical. Meteer is silent as to the ellipsoid shape of the bead. *In re Dailey*, 149 USPQ 47 (CCPA 1976), there is nothing on the record that convinces the examiner that the particular shape of the bead is significant or is anything more than one of numerous shapes a person of ordinary skill in the art would find obvious for the purpose of providing the shape of the bead, therefore, the shape of the bead in itself would not render the claims patentable over Meteer. See *Graham v. John Deere Co.*, With regard to claims 31-33, Meteer is silent as to the intended use of the foam product for sport

equipment, medical equipment and use in packaging materials. However, it has been held that a recitation with respect to the manner in which a claimed padding material is intended to be employed does not differentiate the claimed padding material from a prior art foam product satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

6. Claims 1-4, 7, 9-20, 22-26, and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nowak et al (US 5,837,739). Nowak discloses a foam production having a tightly packed network of resin coated microspheres spaced by the random voids that comprises 25% by volume (abstract and column 11, lines 9). Because the foam product in Nowak is formed from the blending of microspheres and resin in the presence of solvent, the resin is likely cured from a liquid state while in initial contact with the microspheres. Nowak discloses the epoxy resin incorporated into the foam in an amount of 80 % by weight (examples 9-11). Nowak discloses the microsphere having a diameter in the range of 5 to 200 microns (column 4, line 55). Nowak does not teach the specific ranges for the size of the microsphere incorporated into the foam. However, Such as variable would have been recognized by one skilled in the art to impart the shear and compression strengths of the foam. As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the microsphere of Nowak with the diameter instantly claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in

the art. *In re Aller*, 105 USPQ 233. Since Nowak is using the same materials (glass microsphere, and epoxy resin) and the same blending process to produce the foam as Applicant, it is the examiner's position that degree of microsphere coverage by the adhesive is inherently within a recited range and the foam in Nowak would inherently exhibit the same breathability and hardness properties as set forth in the claims. With regard to claims 3, 4, 9-15, Nowak teaches the microsphere being rigid, hollow sphere of glass, polystyrene or phenolic resin (column 2, lines 41-43). With regard to claims 16-18, Nowak discloses the adhesive being made from the epoxy resin and a catalyst (example 1). Nowak discloses the adhesive being thermoplastic resin or thermosetting resin (column 4, lines 48-50). With regard to claims 20, 22 and 23, see product-by process rational with respect to claims 20, 22 and 23 in the paragraph above. With regard to claims 24 and 25, Figure 1 of Nowak shows the shape of the bead being spherical. Nowak is silent as to the ellipsoid shape of the bead. See the obviousness rational for the shape with respect to claim 25 in the paragraph above. With regard to claim 26, Nowak discloses the foam can be made from different microspheres (column 5, lines 28-30). With regard to claims 31-33, Nowak is silent as to the intended use of the foam product for sport equipment, medical equipment and use in packaging materials. See the intended use rational with respect to claims 31-33 in the paragraph above.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Metteer et al (US 5,888,642) or Nowak et al (US 5,837,739) as applied to claim 1 above,

and further in view of Torobin (US 4,303,729). The primary reference fails to disclose the bead made from the recited polymer material. Torobin teaches the use of hollow plastic microsphere including polyethylene and polypropylene in the manufacturing of syntactic foam production (column 3, lines 33-35 and column 13, lines 11-14). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have employed plastic microspheres in the manufacture of syntactic foam system motivated by the desire to provide high resistance to deterioration from exposure to moisture, heat and weathering.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meteer et al (US 5,888,642) or Nowak et al (US 5,837,739) as applied to claim 1 above, and further in view of Toussaint et al (US 4,751,203). The primary reference is silent as to the solid microspheres. Toussaint teaches the glass microsphere being present in two forms, solid and hollow beads (column 7, lines 33-35). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have employed the solid microspheres in the manufacture of syntactic foam system motivated by the desire to control the degree of porosity of the foam since solid microspheres usually have a relatively small diameter compared to hollow microspheres.
9. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meteer et al (US 5,888,642) or Nowak et al (US 5,837,739) as applied to claim 1 above, and further in view of Rex (US 4,250,136). The primary reference

is silent as to the outer casing surrounding the syntactic foam. Rex supplies the missing feature (column 5, lines 24-27). Rex teaches the outer casing **12** comprising reinforcing layers **24** and **26**, intermediate foam layer **18** and a resin layer **22** (column 6, lines 25-28 and figures 1 and 2) wherein the reinforcing layers **24** and **26** made of fiber mats or woven cloth (column 6, lines 20-21). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have employed the outer cloth or net casing surrounding the syntactic foam motivated by the desire to protect and impart the strength of the foam.

10. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meteer et al (US 5,888,642) or Nowak et al (US 5,837,739) as applied to claim 1 above, and further in view of Kriesel (US 5,336,180). The primary reference fails to disclose the foam composite used in conjunction with a hard plastic cover. Kriesel teaches a closed drug delivery system comprising a hard plastic cover **442** and the syntactic foam **990** (column 19, lines 54-56; column 42, lines 53-64). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the hard plastic cover in conjunction with the foam motivated by the desire to enclose the foam.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on Monday to Friday, 8:30 to 5:00 (EAST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV
May 24, 2002



TERREL MORRIS
SUPERVISORY PATENT EXAMINER
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